

Remarks/Arguments

Amendments

The Abstract has been amended to improve clarity, correct a typographical error, and indicate the invention now claimed. If necessary, support for the amendment is found on page 4, lines 97-101. It is submitted that no new matter is introduced by this amendment.

Claims under Prosecution

Independent claim 22 and claims 25, 33, and 36-38, directly or indirectly dependent thereon, are in the application. Independent claim 22 is drawn to a non-aqueous lithium secondary battery. The battery comprises a positive electrode, a negative electrode, a microporous polymer film separator between the electrodes, and a nonaqueous electrolyte solution comprising a nonaqueous solvent and a lithium salt as defined by the claim. The negative electrode comprises ceramic particles as defined by the claim.

Rejection under 35 USC 102

Claims 22, 25, 33, and 36-38 were rejected as anticipated by the JAPIO English language Abstract and the computer generated English language translation of JP 8-298121 (JP '121). This rejection is respectfully traversed. In the following discussion, reference will be made to the JAPIO English language Abstract and the computer generated English language translation of JP '121 provided by the Patent Office.

JP '121 discloses:

PURPOSE: To provide a nonaqueous secondary battery constituted of a positive electrode active material, a negative electrode material, and a nonaqueous electrolyte containing light metal salt, having a high discharge potential and a high capacity, and excellent in safety and charge/discharge cycle characteristics by adding a specific material as a conductive agent for a positive electrode and/or a negative electrode mixture.

CONSTITUTION: One or more carbon/ceramic composite materials preferably constituted of carbon and one or more of a carbide, a boride, an oxide, and an

nitride are contained in a conductive agent for a positive electrode and/or negative electrode mixture. A carbide of one or more of Si, Co, Zr, W, Ge, Ta, Ti, Fe, Nb, Ni, V, Hf, and Mo; a boride of one or more of Si, Zr, W, Ta, Ti, Nb, La, and Mo; an oxide of one or more of Al, Si, Mg, and Zr; and a nitride of one or more of Si, Co, Zr, W, Ge, Ta, Ti, Fe, Nb, Ni, V, Hf, Mn, Sn, In, Ga, and Mo are preferably used.

JP '121, JAPIO English Language Abstract (emphasis added)

The material added in JP '121 is a carbon/ceramic composite. The particle may comprise aluminum oxide. JP '121, machine generated translation, ¶ 8.

The carbon/ceramic composite is conductive.

As for average grain size of an electric conduction agent which consists of carbon/ceramic composite material of this invention, it is desirable that it is 0.1-10 micrometers.

JP' 121, machine generated translation, ¶ 9 (emphasis added).

[Effect of the Invention] Like this invention, if carbon/ceramic composite material is used as a kind of electric conduction agent at least, the nonaqueous rechargeable battery with which the charge-and-discharge cycle property of 40 degrees C has been improved notably can be obtained.

JP' 121, machine generated translation, ¶ 58 (emphasis added); see *a/so* Claim 1 ("by including a kind of carbon/ceramic material at least as an electric conduction agent"), and the Abstract, reproduced above.

Claim 22, the only independent claim remaining in the instant application, recites that "the negative electrode comprises ceramic particles not relating to the charge and discharge reactions of the battery" and that the "the ceramic particles are Al₂O₃ particles".

The surface of applicants' material aids the transmission of lithium ions. Specification, page 7, lines 176-180; Abstract. However, the particles are not responsible for the charging and discharging reactions of the battery. Specification, page 4, lines 97-

101; *see also*, original claim 1 ("containing ceramic not relating to charge and discharge reaction of battery)." Adding carbon to the ceramic, as is disclosed in paragraph 9 of JP '121, would affect the surface of the particles and reduce transmission of lithium ions.

JP '121 discloses addition of conductive, carbon/ceramic composite particles, which may comprise aluminum oxide. Applicants' claims recite aluminum oxide particles, rather than carbon/ceramic composite particles. Carbon/ceramic composite particles that comprise aluminum oxide are not the same as aluminum oxide particles. Further, the carbon/ceramic composite particles of JP '121 are conductive. Applicants' claims recite that the negative electrode comprises ceramic particles not relating to the charge and discharge reactions of the battery.

Anticipation requires that each and every limitation of the claim be disclosed, either expressly or under principles of inherency, in a single prior art reference. *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Absence from the reference of any claimed limitation negates anticipation. *Rowe v. Dror*, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997). The rejection of claims 22, 25, 33, and 36-38 as anticipated by JP '121 should be withdrawn because JP '121 does not disclose a lithium battery in which the negative electrode comprises particles of aluminum oxide not relating to the charge and discharge reactions of the battery.

Conclusion

It is respectfully submitted that the claims are in condition for immediate allowance and a notice to this effect is earnestly solicited. The Examiner is invited to phone applicants'

Appln. No.: 09/042,681
Amendment Dated: March 2, 2004
Reply to Office Action of December 3, 2003

MAT-5870

attorney if it is believed that a telephonic or personal interview would expedite prosecution of the application.

Respectfully submitted,

Lawrence E. Ashery, Reg. No. 34,515
Bruce M. Monroe, Reg. No. 33,602

BMM/bmm/ds

Dated: March 2, 2004

P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

March 2, 2004

B_I:\MAT\5870\AMEND10.DOC